Claims

1. A method for the treatment of retinal detachment or retinal edema in an individual afflicted with retinal detachment or retinal edema, comprising:

effecting an increase in the amount of an endostatin in ocular tissues of an individual afflicted with retinal detachment or retinal edema to a retinal detachment or retinal edema-inhibiting effective amount.

2. The method of claim 1 wherein the endostatin is a polypeptide with the amino acid sequence set forth in SEQ ID NO:1.

3. The method of claim 1, wherein the endostatin is a polypeptide fragment of the polypeptide with the amino acid sequence set forth in SEQ ID NO:1, a derivative of the polypeptide with the amino acid sequence set forth in SEQ ID NO:1, or a variant of the polypeptide with the amino acid sequence set forth in SEQ ID NO:1.

4. The method of claim 1, wherein the increase is effected by administering an exogenous endostatin to the individual.

5. The method of claim 1, wherein the increase is effected by causing an endostatin to be produced within the individual.

6. The method of claim 5, wherein the increase is effected by administering an effective amount of a viral vector comprising an endostatin-encoding nucleic acid to the individual.

7. The method of claim 6, wherein the viral vector is selected from the group consisting of an adenovirus, an adeno-associated virus, a retrovirus, and a lentivirus.

8. The method of claim 7, wherein the viral vector is an adenoviral vector.

9. The method of claim 5, wherein the increase is effected by implanting within the individual at least one microcapsule, wherein the microcapsule comprises cells that secrete endostatin.

10. The method of claim 9, wherein the microcapsule comprises an alginate salt.

11. The method of claim 10, wherein the microcapsule comprises sodium alginate.

12. The method of claim 11, wherein the microcapsule comprises calcium alginate.

13. The method of claim 12, wherein the microcapsule comprises poly L-lysine.

14. The method of claim 9, wherein the cells comprise an exogenous endostatin-encoding nucleic acid.

15. The method of claim 9, wherein the cells overexpress an endogenous endostatin-encoding gene.

16. The method of claim 4, wherein between about 2.5 mg/kg per day and about 20 mg/kg per day of endostatin is administered to the individual.

17. The method of claim 8 wherein the adenoviral vector is administered in an amount effective to provide for expression of endostatin by the individual to result in a concentration of endostatin of up to 1,000,000 ng/ml in the serum of the individual.

18. The method of claim 8 wherein the adenoviral vector is administered in an amount effective to provide for expression of endostatin by the individual to result in a concentration of endostatin of at least about 300 ng/ml in the serum of the individual.

19. The method of claim 18 wherein endostatin is expressed in the individual in a sufficient amount to result in a concentration of endostatin of about 300 ng/ml to about 3000 ng/ml in the serum of the individual.

20. The method of claim 19, wherein endostatin is expressed in the individual in a sufficient amount to result in a concentration of endostatin of about 300 ng/ml to about 1500 ng/ml in the serum of the individual.

21. The method of claim 6, wherein the vector is administered in an amount of from about 10^8 plaque forming units to about 10^{14} plaque forming units.

22. The method of claim 8, wherein the vector is administered in an amount of from about 10^8 plaque forming units to about 10^{14} plaque forming units.

23. The method of claim 9 wherein microcapsules are implanted in an amount effective to provide for expression of endostatin by the cells to result in a concentration of endostatin of up to 1,000,000 ng/ml in the serum of the individual.

24. The method of claim 8 wherein microcapsules are implanted in an amount effective to provide for expression of endostatin by the individual to result in a concentration of endostatin of at least about 300 ng/ml in the serum of the individual.

25. The method of claim 18 wherein the microcapsules are implanted in the individual in a sufficient amount to result in a concentration of endostatin of about 300 ng/ml to about 3000 ng/ml in the serum of the individual.

26. The method of claim 19, wherein microcapsules are implanted in the individual in a sufficient amount to result in a concentration of endostatin of about 300 ng/ml to about 1500 ng/ml in the serum of the individual.

27. The method of claim 6, wherein endostatin-encoding nucleic acid has the sequence set forth in SEQ ID NO:2.

28. A method according to claim 6, wherein the viral vector is administered intraocularly.

29. A method according to claim 28, wherein the viral vector is administered subretinally.

30. A method according to claim 28, wherein the viral vector is administered intravitreally.

31. A method according to claim 7, wherein the viral vector is a lentiviral vector.

32. The method of claim 33 wherein the lentiviral vector is administered in an amount effective to provide for expression of endostatin by the individual to result in a concentration of endostatin of up to 1,000,000 ng/ml in the serum of the individual.

33. The method of claim 32 wherein the lentiviral vector is administered in an amount effective to provide for expression of endostatin by the individual to result in a concentration of endostatin of at least about 300 ng/ml in the serum of the individual.

34. The method of claim 33 wherein endostatin is expressed in the individual in a sufficient amount to result in a concentration of endostatin of about 300 ng/ml to about 3000 ng/ml in the serum of the individual.

35. The method of claim 34, wherein endostatin is expressed in the individual in a sufficient amount to result in a concentration of endostatin of about 300 ng/ml to about 1500 ng/ml in the serum of the individual.

36. The method of claim 31, wherein the lentiviral vector is a bovine immunodeficiency viral vector.

37. The method of claim 36, wherein the bovine immunodeficiency viral vector is administered intraocularly.

38. The method of claim 37, wherein the bovine immunodeficiency viral vector is administered subretinally.

39. The method of claim 48, wherein the bovine immunodeficiency viral vector is administered intravitreally.

40. The method of claim 6, wherein the increase is inducibly effected by the administration to the individual of a viral vector that can cause the production in the individual of an agent that will induce the expression of the endostatin-encoding nucleic acid.

41. The method of claim 36, wherein the bovine immunodeficiency viral vector is administered perioocularly.

42. The method of claim 6, wherein the viral vector is administered periocularly.

43. Use of an endostatin in the manufacture of a medicament for the treatment of retinal detachment or retinal edema in an individual afflicted therewith, wherein said endostatin is in particular a polypeptide with the amino acid sequence set forth in SEQ ID NO:1.

44. Use of claim 43, wherein the endostatin is a polypeptide fragment of the polypeptide with the amino acid sequence set forth in SEQ ID NO:1, a derivative of the polypeptide with the amino acid sequence set forth in SEQ ID NO:1, or a variant of the polypeptide with the amino acid sequence set forth in SEQ ID NO:1.

45. Use of claim 43, wherein an increase in the amount of an endostatin in ocular tissues is effected.

46. Use of claim 45, wherein said increase is effected by administering an effective amount of a viral vector comprising an endostatin-encoding nucleic.

47. Use of claim 46, wherein said viral vector is selected from the group consisting of an adenovirus, an adeno-associated virus, a retrovirus, and a lentivirus.

48. Use of claim 46, wherein said increase is effected by implanting within the individual being afflicted with retinal detachment or retinal edema at least one microcapsule, wherein the microcapsule comprises cells that secrete endostatin.